

## **Annual Green Tier Report Summary For the Year 2018**

### **Introduction**

R Stresau Laboratory (Stresau) develops, manufactures and tests energetic devices for a variety of military and industrial applications. The facility has been in operation since 1961. R. Stresau Laboratory's evaluation expertise has been used in many branches of the armed services and a variety of industries.

Stresau is a privately owned company located in northern Wisconsin. The company employs 87 people, as of December 31, 2018, and became ISO 9001:2008 re-certified in May 2015. In August of 2008, Stresau changed its work schedule to a four 10-hour day work week. This has lowered the amount of energy consumed by the facility and by employees during their commute. It has an effect not only on energy consumption, but also on greenhouse gas emissions. Energy consumption is highest at the beginning of the day when everything starts up. By eliminating one start-up each week, the facility is realizing significant reduction in energy usage.

The facility is licensed to operate a Thermal Treatment Unit (TTU) to render waste on site, and has lowered its generator status from Very Small Quantity Generator (VSQG) to Small Quantity Generator (SQG). During a review in 2016-2017 with EPA and WI DNR representatives, Stresau was directed to change how it account for energetic waste, differently from previous years, this changed resulted in a generator quantity status change. Stresau also has an active recycling program for metals, cardboard, batteries, CFL and fluorescent light bulbs and other materials.

In 2006 Stresau began discussions with the Wisconsin Department of Natural Resources about becoming a Green Tier participant and officially submitted an application to become a Tier 1 Green Tier participant on February 19, 2007. Upon acceptance as a Tier 1 Green Tier participant, Stresau committed to implementing an Environmental Management System and to engage in continuous improvement of their environmental performance.

On 22 August 2017, Stresau Laboratory, Inc. (Stresau Laboratory) underwent an independent third-party audit of the Environmental Management System (EMS) implemented and maintained at Stresau Laboratory. The results of the audit indicate that the Stresau Laboratory EMS is in conformance with the requirements found in 299.83 (dg) of the Environmental Results Program and that the Stresau Laboratory EMS is functionally equivalent to the ISO 14001:2004 standard.

Recently, Stresau Laboratory has been working with our customers, requesting how certain requirements in contracts could be modified to reduce the use of paper and rely more on digital storage. These requests may include the use of digital x-ray results in lieu of traditional film and the use of digital storage for the retention of contracts within the constraints by federal or local regulations. A goal to reduce the overall amount of paper and storage required for these processes.

Summary energy reports are listed on page 6 through 8. Additional changes in energy consumption can be attributed to additional production and environmental changes for heating and cooling, changes in

temperature during the year and a modification in quantities ordered, increasing production in some buildings.

Complete report will be submitted to Mr. Wegener, Weston, Green Tier Project Coordinator.

## Green Tier Acceptance Date

R Stresau Laboratory initiated the application process in 2007 and was accepted into the Wisconsin Green Tier Program as a Tier I participant on April 30, 2009. Since the acceptance, the Green Tier Program has become part of our ISO 9001-2015 annual review, a continuation from ISO 14001:2004 standards. The importance of reducing our impact on the environment we believe helps sets us apart from other industry partners.

## Program Goals and Objectives

- Energy Use Reduction
- Recycling and Continued Waste Reduction
- Educate employees on environmental issues and opportunities
- Identification, elimination or reduction in non-biodegradable cleaning products
- Paperless file retention system (SentryFile) – Upgrading current digital system
- Improve efficiency of Thermal Treatment Unit (TTU) – Additional types of Units
- Participate in industry efforts to develop “green” energetics

### • Energy Use Reduction

Objective/Completion Date	Results/Outcome
Installation of high efficiency fluorescent or LEDs where applicable  Completion Date: Ongoing	Productions buildings have had continuous updates to LED lights throughout 2018. i.e. Building 14  External sidewalk lights converted to LEDs as existing fixtures are needed to be replaced or upgraded.  An audit of lights that are schedule to be replaced has been completed, it is estimated that half the facility remains to be changed. Current plans are to change an entire building at a time and the process is expected to take two to three years.
Increase building insulation.  Completion Date: Ongoing	Additional insulation was installed in building 6 to increase efficiency.  Building 6 entry door replaced, additional doors and windows will be replaced to reduce air flow

Exploration of alternative energy sources Completion Date: Ongoing	Stresau will continue to research alternative energy sources to reduce the amount of energy consumed. The use of Solar on roof tops and wind presents hazards at this time, a review of recapturing heat loss within buildings and processes is our current focus.
Replace existing motors with energy efficient motors. Completion Date: Ongoing	When existing motors need replacing, Stresau will research and replace with the most energy efficient motor available. Example – replacing single phase motors to higher efficiently 3 phase motors during upgrades to HVAC systems.
Decrease overall operating energy usage. Completion Date: Ongoing	Facility continues to operate a 10-hour day, 4-day week work schedule. Energy usage slashed to a minimum by operating only essential processes during non-production times.
HVAC Efficiency. Completion Date: Ongoing	Building 12 heating was converted from electrical to Gas for higher efficiently when operated  Air exchange systems are having duct work modified to have air filtered and circulated within the structure, reducing overall heat loss while maintaining air quality

## - Recycling and Continued Waste Reduction**

<b>Objective/Completion Date</b>	<b>Results/Outcome</b>
Utilization of recycled materials in production operations Completion Date: Ongoing	Continue to bid manufactured items using recycled cost savings packaging materials  We have made requests to our customers for the use and certification of other suppliers in order to provide a greater range of possible purchasing partners
Recycling Program Implemented Completion Date: Ongoing	As contracts allow, Stresau recycles scrap metal, aluminum, plastic, cardboard, pallets locally.
Proper Disposal of Hazardous Materials Completion Date: Ongoing	On an annual basis, expired / waste hazardous materials are properly disposed of through the NWRPC Clean Sweep program. WRR is also used to ensure hazardous materials are properly disposed of.  E-waste properly disposed

- **Educating Employees on Environmental Issues and Opportunities**

Objective/Completion Date	Results/Outcome
<p>Topics Include:</p> <ul style="list-style-type: none"> <li>• Living a Greener lifestyle by Reduction, Reuse and Recycling;</li> <li>• Updates on Stresau programs;</li> <li>• Information on alternative fuels, solar and wind.</li> </ul> <p>Encourage vehicle fuel efficiency</p> <p>Completion Date: Ongoing</p>	<p>Training is provided to all employees via staff minutes, distributed every two weeks to all employees and posted on employee bulletin boards. Postings and handouts are provided to employees as well, covering a wide range of informational and environmental topics.</p> <p>Additional supporting guidance to bring household material to local recyclers, supporting recycling growth in the facility. 2019 NW Wisconsin Household Hazardous Waste Collection Schedule shared in Bi-weekly staff minutes and posted in the employee break/lunch room to help encourage household recycling by county.</p>

- **Identification, Elimination or Reduction in Non-biodegradable Cleaning Products**

Objective/Completion Date	Results/Outcome
<p>Identify environmentally harmful cleaning products used and replace with environmentally friendly alternatives.</p> <p>Completion Date: Ongoing / 2019</p>	<p>Environmentally friendly cleaning products replaced previously used cleaning products.</p> <p>Requests have been submitted to current uniform supplier to review other possible products used for cleaning that could be serviced (towels, mops, etc) in lieu of disposable material.</p> <p>During 2019, switching from disposal mop heads for floor cleaning to washable, reusable mop heads as the disposal mops are used per building.</p>

- **Paperless File Retention System Implemented**

Objective/Completion Date	Results/Outcome
<p>Reduce the use of paper through the implementation of electronically stored documents.</p> <p>Completion Date: Ongoing</p>	<p>Ongoing efforts are made to reduce the use of paper by storing documents electronically through the implementation of SentryFile software. Files are assigned a specific number and they are easily accessible to employees needing to access information from the file.</p>

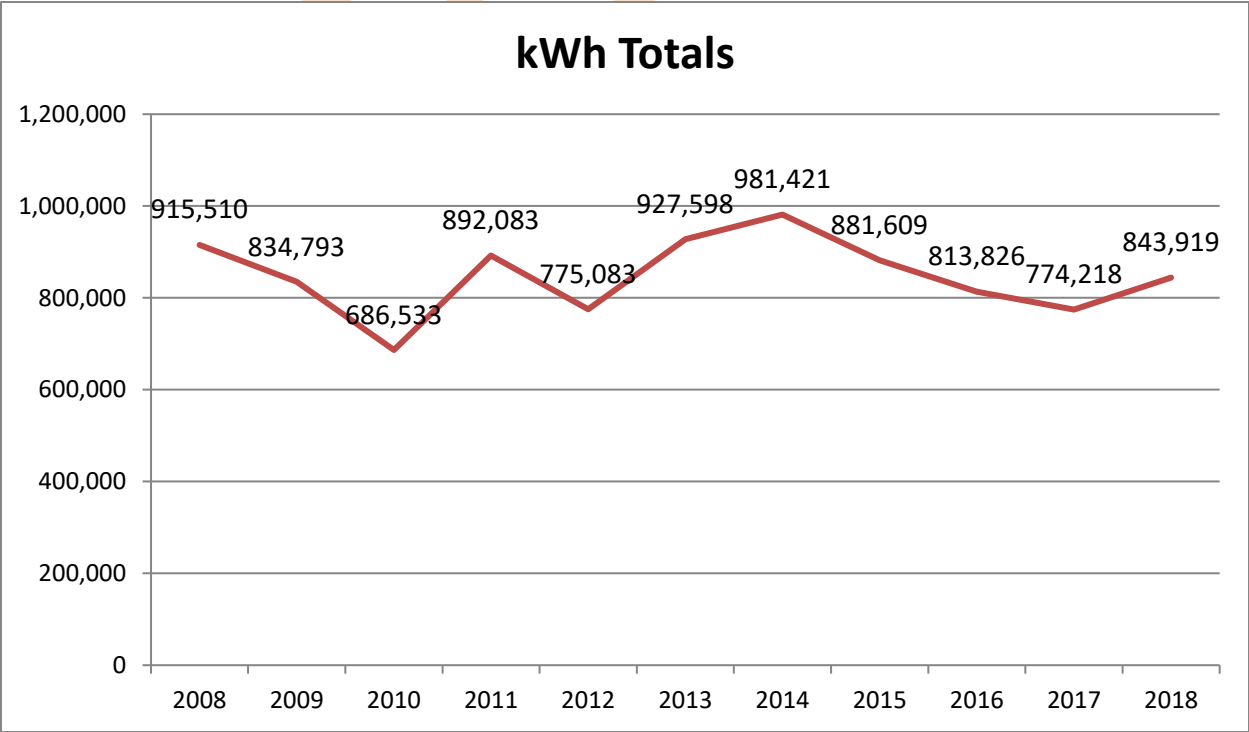
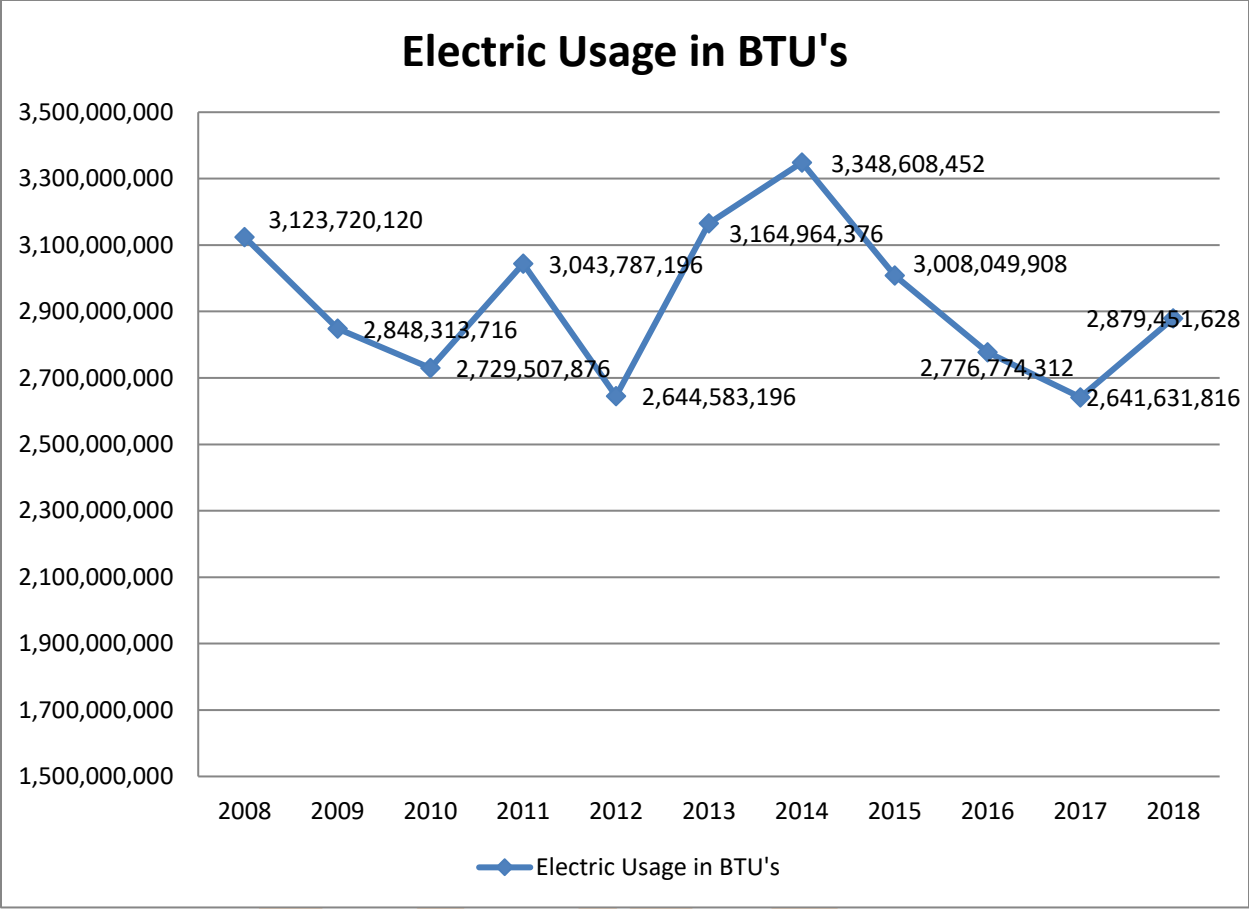
	Requests to customers to have retention requirements adjust to include digital or digital only version, such as the use of digital x-ray results in lieu of traditional x-ray film.
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- **Improve Efficiency of Thermal Treatment Unit (TTU)**

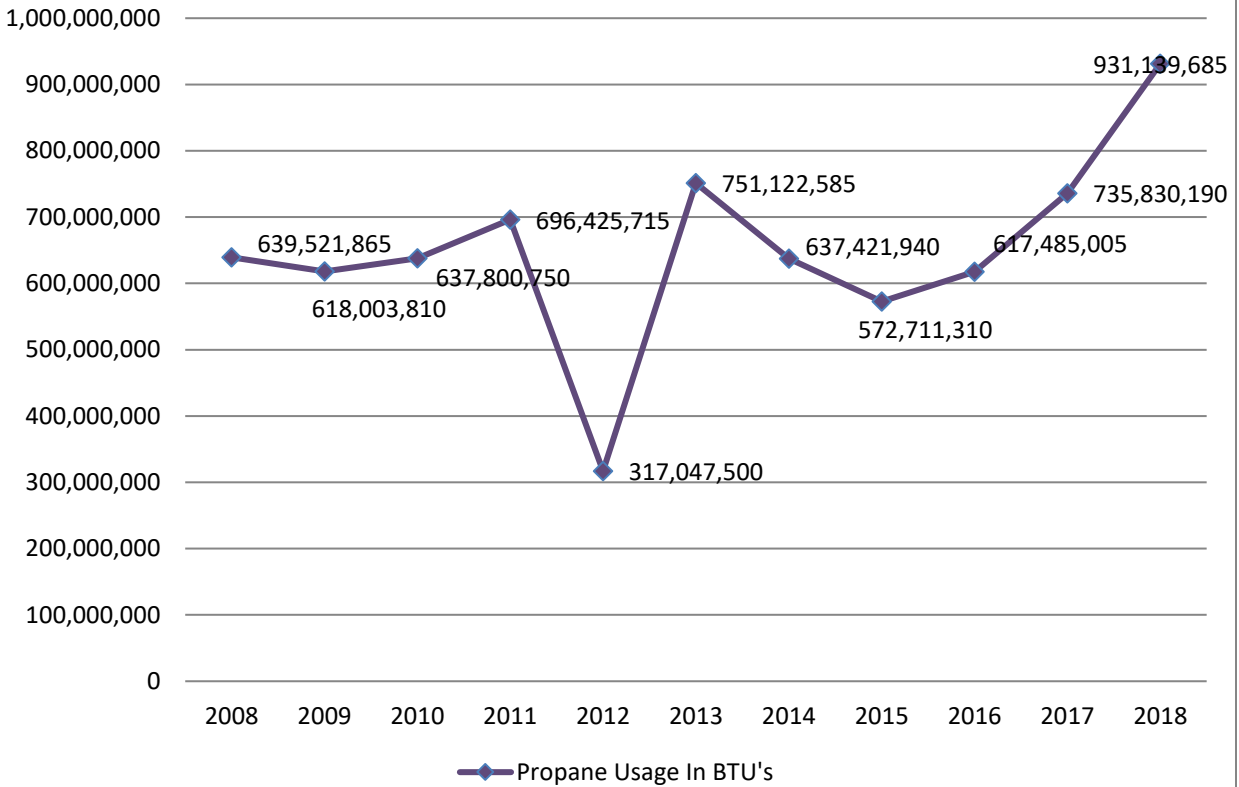
Objective/Completion Date	Results/Outcome
Improve efficiency of Thermal Treatment Unit (TTU)	This is a 12v battery operated system, with a solar panel being used to maintain and recharge the battery(s).
Completion Date: Ongoing	New TTU processing unit is being reviewed by DNR Air Management for any additional permitting requirements that maybe required. Current process is still in place, for the safety of the public and the inability to classify the generated waste by Department of Transportation requirements, the energetic waste will continue to be treated on site

- **Participate in Industry Efforts to Develop “Green” Energetics**

Objective/Completion Date	Results/Outcome
Industry wide effort to develop “green” energetics	Stresau participated in the research and testing of energetic material aimed at replacing lead based energetics
Completion Date: Ongoing	Current products that would reduce the dependency on lead based energetics do not provide the require results in current products and some customer contracts require specific materials for production. Alternative materials are being reviewed and continue to be evaluated.



## Propane Usage In BTU's



## Propane Gallons

